

Draft Environmental Assessment

Canyon Ferry WMA Pond 3 Water Drawdown

July 7, 2017



***Montana Fish,
Wildlife & Parks***

Draft Environmental Assessment CHECKLIST

PART I. PROPOSED ACTION DESCRIPTION

1. **Type of proposed state action:** Montana Fish, Wildlife & Parks (MFWP) is proposing to drawdown water levels in Pond 3 on the Canyon Ferry Wildlife Management Area (CFWMA) starting in early to mid-August 2017 (precise timing would depend upon water elevations in Canyon Ferry Reservoir) to reduce or eliminate carp and to aerate the soils in the pond. These actions would be expected to promote an increase in the amount of invertebrates and submergent vegetation in the pond which would improve wildlife, particularly waterfowl, habitat in the pond and hence on the CFWMA.

2. **Agency authority for the proposed action:**

Canyon Ferry WMA is administered by the Bureau of Reclamation. Montana Fish, Wildlife & Park's manages the CFWMA through a management agreement (No. R12MU60088, 2012) with the Bureau of Reclamation.

3. **Anticipated Schedule:**

If a water drawdown of the pond is done, it would start approximately early to mid-August 2017 and would continue until the pond is either completely dry or water levels are low enough to achieve a winter kill of carp (if successful). As much of the pond as possible would be kept dry for an extended time period to promote a better invertebrate and submergent vegetation response to the drawdown. Depending upon the action alternative selected, the pond would either start to be refilled sometime in March 2018 with water from the east-side canal, or later in the spring of 2018 when water starts seeping in from Canyon Ferry Reservoir.

4. **Location affected by proposed action (county, range and township – included map):**

Pond 3 on the CFWMA (see map), Broadwater County, 7N 2E portions of sections 4, 5, 8, 9 and 17.

5. **Project size -- estimate the number of acres that would be directly affected that are currently:**

	<u>Acres</u>		<u>Acres</u>
(a) Developed:		(d) Floodplain	<u>0</u>
Residential	<u>0</u>		
Industrial	<u>0</u>	(e) Productive:	
(existing shop area)		Irrigated cropland	<u>0</u>
(b) Open Space/	<u>0</u>	Dry cropland	<u>0</u>
Woodlands/Recreation		Forestry	<u>0</u>
(c) Wetlands/Riparian	<u>~ 370 acres</u>	Rangeland	<u>0</u>
Areas		Other	<u>0</u>

6. Permits, Funding & Overlapping Jurisdiction.

- (a) **Permits:** No permits are needed to implement the proposed action
- (b) **Funding:** The proposed action would not require any additional funding. Work involved in carrying out the proposed action would be done as part of the regular Operation and Maintenance activities of the CFWMA which are funded by MFWP or by the Bureau of Reclamation.
- (c) **Other Overlapping or Additional Jurisdictional Responsibilities:**

<u>Agency Name</u>	<u>Type of Responsibility</u>
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Bureau of Reclamation – administers property for the federal government	
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MFWP - manages the CFWMA through a management agreement (No. R12MU60088, 2012) with the Bureau of Reclamation.	
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7. Narrative summary of the proposed action:

A slow water drawdown would be done on Pond 3 of the CFWMA starting around early to mid-August 2017 (timing would depend upon water levels in Canyon Ferry Reservoir) to reduce or eliminate carp in the pond and to aerate the wet pond soils. There is currently extremely high turbidity in Pond 3 caused by high numbers of carp. Carp inhibit the growth of submergent vegetation as a result of their feeding actions which stir sediments up resulting in muddy or murky water with little light penetration for the growth of submergent aquatic vegetation. Turbidity and presence of large bodied fish are also negatively associated with wetland invertebrate density and diversity. Carp typically overwinter in the pond below the ice. Therefore, one of the goals of the drawdown would be to completely dry up the pond or to lower water levels sufficiently enough to kill carp overwinter due to the lack of oxygen.

Water levels in Pond 3 have also traditionally been managed to be relatively stable. Stable conditions lead to anaerobic soil conditions and the lack of soil oxygen inhibits root growth of many wetland plants. Stable water conditions also lead to reduced wetland invertebrate numbers and diversity. Drawdowns are an effective management tool to simulate a wet-dry hydrological regime, which is a more natural cycle for shallow wetlands. A dry cycle aerates the soil, allowing oxygen to be absorbed directly by plant roots, which stimulates growth. Drawdowns to improve wetland plant communities can also increase invertebrate productivity.

Once a drawdown is achieved, the pond would then be kept as dry as possible for an extended period to thoroughly aerate the substrate soils and to stimulate the production of invertebrates and aquatic submergent vegetation. The exact duration of the drawdown would depend upon the action alternative selected. It may not be possible to get the pond completely dry, or to keep it dry, due to factors outside of the control of MFWP such as inflow from creeks, non-Department controlled irrigation ditches, springs in the pond, seepage through the dike from Canyon Ferry Reservoir, or overland flow (flooding) that may occur during the winter as a result of ice jams on the Missouri River. MFWP can only regulate water coming into Pond 3 from the Missouri River via the east side canal. There are still ecological benefits to a draw-down even if the pond is unable to be completely dried, such as improved soil oxygen, improved vegetative response, and higher invertebrate densities in those areas that are devoid of water for an extended period.

The primary objective of the project is to improve submergent vegetation production for the benefit of waterfowl, primarily ducks and Canada geese that utilize the pond. However, a drawdown will also improve foraging opportunities for shorebirds in the short term by exposing mudflats, thereby making invertebrates more accessible during the drawdown and by increasing invertebrate density and diversity after the drawdown.

MFWP constructed a fish screen on the intake canal for the CFWMA's Pond 4 following a drawdown that was done in that pond in 2015-16 to try to restrict access by adult carp and slow recolonization of carp in that pond. MFWP would construct a similar fish screen or other barrier on the intake canal for Pond 3 based on our Pond 4 intake canal experience. If adult carp were not prevented from re-entering the pond through the east-side canal that supplies water to the pond, carp would likely recolonize the pond more quickly and reach population levels damaging to aquatic vegetation in an estimated 4 to 5 years necessitating a need for another water drawdown. If carp recolonization rates were slowed, the amount of time required before another drawdown for the purposes of aerating the soils and stimulating submergent vegetation is required could be extended

8. Description and analysis of reasonable alternatives:

Alternative A: No Action

MFWP does not do a water level drawdown of Pond 3 on the CFWMA and continues to manage for stable water conditions in Pond 3. This action would retain the current status quo regarding impacts of many of the aspects of the physical and human environment. The action would result in the continued degradation of the habitat quality of Pond 3 for waterfowl, waterbirds, and shorebirds.

Alternative B: Preferred Alternative

MFWP proposes to do a water level drawdown in Pond 3 on the CFWMA to achieve a complete carp kill and aerate the soils in the pond. If successful, this would substantially improve water clarity and promote an increase in aquatic invertebrates and submergent vegetation which would improve waterfowl habitat in the pond and hence on the CFWMA. The duration of the drawdown, if achieved, would last until the pond started to refill from seepage from Canyon Ferry Reservoir. This would likely occur in late May to early June 2018. The desire is to extend the drawdown period through the spring growing season at a minimum to allow for adequate soil aeration and vegetation germination. Drawdowns of shorter duration can at times fail to yield the desired vegetative response.

Alternative C: Shorter Duration Drawdown

Alternative C is similar to Alternative B, except that the duration of the drawdown would be for a shorter time period. Instead of extending the duration of the drawdown to late May/early June 2018 when seepage from Canyon Ferry Reservoir would start to refill the pond, Pond 3 would be started to be refilled sometime in early to mid-March 2018 (whenever the east-side canal intake is free of ice). This would serve to try to accommodate waterfowl and colonial nesting waterbirds that nest annually on the islands in Pond 3. However, the speed at which Pond 3 would refill is unknown as the water level in the east-side canal is dependent on water flow in the Missouri River. Water

levels in the Missouri River in the late winter/early winter can be quite variable depending on when snowmelt and run-off starts to occur. In addition, the pond would have to 're-seal' itself after having the soils in the pond dried out to at least some degree. That is, water would initially infiltrate into and be absorbed by the soil rather than immediately ponding. Lastly, water levels in Canyon Ferry Reservoir are considerably lower than in the ponds in the late winter/early spring time period, so some amount of water would be lost to the reservoir via seepage through the dikes. All these factors combined may result in it taking longer than desired to refill the pond to adequate levels for nesting waterfowl and colonial waterbirds. While this alternative may potentially lessen short-term impacts to nesting waterfowl and colonial waterbirds, the shorter duration of the drawdown makes it less likely that the full longer-term benefits of invigorated submergent vegetation growth and increased invertebrate abundance from a drawdown would be realized.

9. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

Montana Fish, Wildlife & Park's management agreement (Management Agreement No. R12MU60088, 2012) with the Bureau of Reclamation.

PART II. ENVIRONMENTAL REVIEW CHECKLIST

A. PHYSICAL ENVIRONMENT

Evaluation of the impacts of the No Action Alternative including secondary and cumulative impacts on the Physical Environment.

There would be no changes to the status quo regarding the impacts to land resources under the No Action Alternative. The majority of the soils in Pond 3 would continue to go unaerated (pond water elevations do normally drop some overwinter) which would continue to limit their productivity. There would be no impacts on air resources under the No Action Alternative – status quo. There would be no changes to the status quo of impacts to water resource under the No Action Alternative. Surface water quality in Pond 3 would continue to be poor due to the high levels of suspended sediment (turbidity) in the water due to the feeding actions of carp in the pond. All other impacts to water resources from the No Action Alternative would be none. There would be no changes to the status quo regarding impacts on vegetation under the No Action Alternative. The aquatic vegetation community in Pond 3 would continue to be negatively impacted regarding species diversity and production from the high levels of turbidity in the water due to the feeding actions of carp in the pond. Growth of curly-leaf pondweed in the pond would also continue to be inhibited due to the high level of turbidity in the water. All other impacts to the vegetation resource would be none. There would be no changes to the status quo regarding impacts on fish and wildlife resources under the No Action Alternative. Waterfowl habitat quality in the pond would continue to be degraded due to the impacts of water turbidity on the growth of submergent aquatic vegetation. This would continue to negatively impact waterfowl use of the pond for foraging. The degraded water quality might also continue to negatively impact shorebird species because of reduced invertebrate diversity and abundance. Colonial-nesting bird species, such as American white pelicans, that utilize Pond 3 would likely not be impacted either positively or negatively under the No Action Alternative. Carp numbers in Pond 3 would be expected to increase under the No Action Alternative. There would be no other expected impacts or at least changes from the status quo regarding fish and wildlife resources.

Evaluation of the impacts of the Proposed Actions (Alternatives B & C) including secondary and cumulative impacts on the Physical Environment.

1. <u>LAND RESOURCES</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility?			X			1b
c. Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?		X				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				

1b. - As the pond is drawn down and parts of the pond become dry, there is the potential for some amount of wind erosion of the sediments that have been deposited in the pond. The potential for soil erosion (wind) would be the greatest under Alternative B since it would have the longest drawdown duration. The amount of erosion that might occur under Alternatives B or C as the pond is drawn down would depend upon such variable factors as how long it takes for the pond soils to dry out, wind speeds and direction, the frequency of precipitation (rain/snow) events, and amount of precipitation which would influence how moist the soil remains. The level of potential wind erosion is not expected to significantly alter the productivity or fertility of the soil. If successful, the action alternatives (B and C) should improve the productivity of the lake bottom for submergent and emergent vegetation species to varying degrees as a result of aerating the saturated soil. Alternative B would be expected to provide the most benefit regarding productivity of submergent and emergent vegetation because of the longer drawdown duration which would provide for a longer period of soil aeration.

2. <u>AIR</u> Will the proposed action result in:	IMPACT *					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Emission of air pollutants or deterioration of ambient air quality? (Also see 13 (c).)			X			2a
b. Creation of objectionable odors?			X			2b
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. For P-R/D-J projects, will the project result in any discharge, which will conflict with federal or state air quality regulations? (Also see 2a.)						NA

2a. - This would be applicable to both Alternatives B and C. If some level of wind erosion does periodically occur as the pond is drawn down and areas of exposed soil start to dry out, then for those time periods when wind erosion is occurring dust levels in the air would be increased resulting in a decrease in ambient air quality. Any such events would be expected to be fairly short in duration and very localized regarding the area impacted (limited geographic area). The potential for soil erosion (wind) would be the greatest under Alternative B since it would have the longest drawdown duration.

2b. - This would be applicable to both Alternatives B and C. As the pond is being drawn down, the exposed saturated soil could potentially give off an objectionable odor. Also, any fish (carp, etc) that are killed because of the draw down and not consumed by predators may give off an objectionable odor as they start to decay. Any objectionable odors given off by exposed wet soils or decaying fish would be short in duration and impact a very limited geographic area, i.e. smell probably would not extend beyond immediate area around the pond.

NA – Not applicable

3. <u>WATER</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?			X			3a
b. Changes in drainage patterns or the rate and amount of surface runoff?		X				
c. Alteration of the course or magnitude of floodwater or other flows?		X				
d. Changes in the amount of surface water in any water body or creation of a new water body?			X			3d
e. Exposure of people or property to water related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. <u>For P-R/D-J</u> , will the project affect a designated floodplain? (Also see 3c.)						NA
m. <u>For P-R/D-J</u> , will the project result in any discharge that will affect federal or state water quality regulations? (Also see 3a.)						NA

3a & 3d – Applicable to both Alternatives B & C. The drawdown would involve releasing turbid water from Pond 3 into Canyon Ferry Reservoir through the existing operational water control structure outlets (2) located on the dike between Pond 3 and Canyon Ferry Reservoir. At some point in time, water would have to be pumped from the pond through one of the operational control structure outlets in order to achieve a total drawdown due to elevation differences between the outlets and the pond. In addition, the proposal would be to dry up Pond 3 for an extended amount of time (amount of time varies between Alternatives B and C) which would change the amount of surface water in the pond itself. In order to achieve a complete drawdown of the pond, it might be necessary to continue drawdown efforts well into the spring of 2018. This could only occur under Alternative B because of the timing, as under Alternative C the pond would start to be refilled likely in mid to late March. If the pond drawdown was successful in achieving a carp kill, then the amount of suspended sediments (turbidity) would be reduced when the pond was refilled until that point in time that carp populations had recolonized/recovered enough to once again start negatively impacting the water quality in the pond.

NA – Not applicable

4. <u>VEGETATION</u> Will the proposed action result in?	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?			X			4a
b. Alteration of a plant community?			X			4b
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?		X				
f. For P-R/D-J, will the project affect wetlands, or prime and unique farmland?						NA
g. Other:			X		X	4g

4a & 4b. – Applies to both Alternatives B and C. The objective of the proposed project is to improve the production and abundance of submergent aquatic vegetation in the pond post drawdown by eliminating carp from the pond and aerating the saturated pond soils. While both Alternatives B and C would eliminate carp, if the drawdown is successful, Alternative B would likely achieve the greatest improvement in the production and abundance of submergent aquatic vegetation due to the longer drawdown period and increased amount of soil aeration. Emergent vegetation species would also likely benefit from any drawdown with the greatest potential again likely being provided by Alternative B due to the extended drawdown period. If in 2018 the colonial nesting bird species (American white pelicans, double crested cormorants, gull species) that typically nest on islands in Pond 3 relocate to other islands on the CFWMA, or to other geographic areas, to nest where they've previously not nested, then they might negatively impact and potentially even alter the plant community on those islands etc. If the colonial-nesting bird species do nest elsewhere in 2018, it is unknown if those species would then return to utilizing the islands in Pond 3 for nesting in 2019 or not. However, it is expected that they would.

4g. – Applies to both Alternatives B and C. Pond 3 likely has some curly-leaf pondweed (*Potamogeton crispus*) in it, as it is found in the east-side canal. Curly-leaf pondweed (CLP) is an aquatic invasive species that forms dense mats of vegetation which can inhibit or limit water flow down the east-side canal and can also limit the growth of native aquatic plants. Drying up Pond 3 would allow the curly-leaf pondweed to be exposed to drying and freezing action which would help control the invasive aquatic species in the short-term. Alternative B would likely provide for the most potential control of CLP in Pond 3 again due to the longer drawdown period. In the long-term, improving the water quality in the pond would improve conditions for the growth of curly-leaf pondweed (CLP) in Pond 3 as turbid water likely limits the growth of CLP because of the lack of light penetration. The improved potential for growth of CLP in Pond 3 post drawdown is being mitigated by the fact that MFWP is actively controlling CLP in the east-side canal through annual applications of aquatic herbicide (Endothall).

NA – Not applicable

5. <u>FISH/WILDLIFE</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?			X			5b
c. Changes in the diversity or abundance of nongame species?			X			5c
d. Introduction of new species into an area?		X				
e. Creation of a barrier to the migration or movement of animals?			X			5e
f. Adverse effects on any unique, rare, threatened, or endangered species?		X				
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?			X			5g
h. <u>For P-R/D-J</u> , will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f.)						NA
i. <u>For P-R/D-J</u> , will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d.)						NA

5b, 5c, 5g - Drawing down Pond 3 would temporarily impact Canada geese, ducks, American white pelicans, double-crested cormorants, gulls, and numerous other species of waterbirds that use the pond while the drawdown is occurring. During the drawdown, the availability of soil invertebrates for foraging shorebirds would be improved. The proposed action alternatives would also improve the quality of the waterfowl and nongame habitat post drawdown for a number of years and hence likely improve the diversity and/or abundance of game and nongame bird species using Pond 3. Alternative B would be expected to provide the most long-term habitat benefits because of the longer drawdown period.

The drawdown would take place after the 2017 nesting period for bird species and would continue through the fall and winter of 2017-18 and possibly into the spring of 2018 depending upon how long the drawdown took and the alternative selected. Depending upon the alternative selected, how long the drawdown event took, whether or not pond water levels could be lowered enough to achieve an over-the-winter fish kill, and how long it took the pond to refill, water might or might not be back at adequate levels in the pond in time for the 2018 nesting season. Water levels in Pond 3 are typically managed for a target elevation of 3,796' in March and April in order to adequately isolate islands from the mainland and terrestrial predators. At that water elevation, water depth is believed to be around six to seven feet deep in the deepest spots of Pond 3. Lack of adequate water in the pond in the spring would negatively impact nesting waterfowl such as geese and ducks during the 2018 nesting season. Canada geese typically start nesting activities in Pond 3 around mid to late March.

A lack of adequate water in the pond in the spring would also negatively impact the colonial nesting species that utilize Pond 3. As mentioned, these species include American white pelicans, double crested cormorants, and several gull species (California, ring-billed). American white pelicans are a Montana Species of Concern. Pelicans first started using the CFWMA for nesting in 1989 (13 nests observed).

Originally the pelicans nested on islands in Pond 2 where a few nests are still observed. Pelicans started nesting in Pond 3, which has far more islands than Pond 2, in 1998. Thirty different islands in Pond 3 have been utilized by pelicans for nesting at one point in time or another. Eighteen different islands were used by nesting pelicans in 2017. In May 2016, a total of 1,610 pelican nests (18 islands) and a total of 145 cormorant nests (4 islands) were observed in Pond 3. Pelican nests on the CFWMA (Ponds 2 & 3) have averaged 1,879 since 1998 (last 20 years) with almost all of the nests occurring on islands in Pond 3 the last 10 years. Cormorant nests have averaged 449 since 1998 with the bulk of the nests again being in Pond 3 the last 5-10 years. The number of cormorant nests on the CFWMA has generally been on a steady decline since 2003. Appendix B shows a graph of the number of white pelican and cormorant nests observed on the CFWMA since 1987. No surveys are conducted for gulls.

Under Alternative B, Pond 3 would likely be mostly dry in the March – May time period. It's unknown exactly how nesting waterfowl (Canada geese, ducks) and colonial nesting species (pelicans, cormorants, gulls) would respond during the 2018 nesting season. Individual birds of the impacted species might nest elsewhere on the CFWMA or in a totally different geographic area to include potentially colonizing new wetlands. In the case of the American white pelicans and double-crested cormorants, there are potential negative impacts to fisheries if the colonization of a new wetland or increased use elsewhere by pelicans or cormorants results in increased localized predation pressure on fish. Individual birds of the impacted species could also attempt to continue to nest on the islands even without the presence of water. In that case, those individuals would likely suffer high nest predation rates from mammalian predators such as raccoons which are found in large numbers on the CFWMA. In the case of the colonial nesting waterbirds, individuals could also forgo breeding in 2018. Colonial nesting waterbirds are adapted to wet-dry cycles of wetlands and are long-lived birds. The loss of one breeding season is unlikely to have population-level impacts on pelicans or the other colonial nesting species that utilize Pond 3. It is unknown where the birds would go if they forgo breeding. They could disperse to other wetlands in the state in higher numbers than typically observed by the public which again might negatively impact local fisheries in those areas during 2018. It is anticipated that individuals who forgo breeding in 2018 would attempt to breed again in 2019 at the established colonial nesting islands in Pond 3.

Under Alternative C, Pond 3 would start to be refilled sometime in March 2018. Whether there would be adequate water in the pond during the nesting season to isolate the islands enough to prevent mammalian predation would depend on how long it took the pond to refill. Shallow water levels in the pond could create an ecological trap. Nesting waterfowl and colonial nesters might nest with the presence of some water but then suffer higher nest predation rates as a result of having insufficient levels of water to adequately isolate the islands from the mainland and mammalian predators. Since Canada geese typically nest the earliest (mid to late March), the potential risk to them would be the greatest as water levels would be at the lowest in mid to late March. Under both Alternatives B and C, potential water level related impacts to species nesting in Pond 3 would be limited to the 2018 nesting season (1 year) as water levels in Pond 3 would be back to normal for the 2019 nesting season. Under either action alternative, any potential increase in mammalian nest predation rates in 2018 would be unlikely to have population-level impacts on Canada geese, duck species or colonial-nesting waterbirds.

The drawdown would likely make carp and other rough fish species present in the pond more available for birds such as bald eagles, osprey, pelicans, and cormorants in the short-term. After the drawdown was completed and a fish kill achieved (if achieved), there would be less fish available in Pond 3. However, food for bald eagles, osprey, pelicans, and cormorants is not limiting in the immediate area given the other three ponds present on the WMA and the presence of Canyon Ferry Reservoir and the Missouri River. In addition, pelicans at least are known to travel considerable distances to feed and can exploit food resources outside of the localized area.

On the fisheries side, the purpose of the drawdown would be to kill the carp, an introduced species, in the pond. Other fish species to potentially include yellow perch, white sucker, long-nose sucker, redbreasted dace, fathead minnow, long-nosed dace, stonecat, sculpin, and an occasional trout that may be found in the pond would also be killed as well. No listed fish species or fish species of concern have been detected in the pond. Killing whatever fish that may be present in Pond 3 would not negatively impact populations of those species. Any fish species currently found in Pond 3 would also be expected to likely recolonize the pond over time once water is returned to the pond via the west-side canal.

5e –MFWP constructed a fish screen on the intake canal for CFWMA’s Pond 4 following a drawdown of that pond in 2015-16 to try to restrict access to the pond by adult carp to slow carp recolonization. MFWP will construct a similar fish screen or other barrier on the intake canal for Pond 3 based on experience gained from the Pond 4 intake barrier. As was the case for the Pond 4 intake fish barrier, it is not feasible from a maintenance standpoint (cleaning debris, sediment, etc) to install a fish barrier that would keep all sizes of carp out of Pond 3.

NA – Not applicable

B. HUMAN ENVIRONMENT

Evaluation of the impacts of the No Action Alternative including secondary and cumulative impacts on the Human Environment.

Under the No Action Alternative, there are no changes from the status quo regarding effects on all the categories related to the human environment from the No Action Alternative. The productivity of Pond 3 regarding submergent vegetation and aquatic invertebrates would continue to be limited due to high water turbidity. Since the pond would largely remain filled with water (some natural loss of water would occur during the winter), the potential for soil erosion would be largely non-existent. Since no carp would be killed, there would be no dead fish to see or smell. The quantity and quality of both waterfowl recreational hunting opportunity and overall waterfowl/waterbird viewing opportunities in the pond would continue to be negatively impacted due to the continued negative impacts on the pond’s wetland habitat from the presence of carp.

Evaluation of the impacts of the Action Alternatives (Alternatives B and C) including secondary and cumulative impacts on the Human Environment.

6. <u>NOISE/ELECTRICAL EFFECTS</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Increases in existing noise levels?		X				
b. Exposure of people to severe or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				

7. <u>LAND USE</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?			X			7a
b. Conflict with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?		X				

7a - Applies to both Alternatives B and C. The objective of the proposed project is to improve the production and abundance of submergent aquatic vegetation and aquatic invertebrates in the pond post drawdown by eliminating carp from the pond and aerating the saturated pond soils. Alternative B would likely achieve the greatest improvement in the production and abundance of submergent aquatic vegetation and aquatic invertebrates due to the longer drawdown period. Emergent vegetation species would also likely benefit from any drawdown with the greatest potential again likely being provided by Alternative B due to the longer drawdown period.

8. <u>RISK/HEALTH HAZARDS</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Affect an existing emergency response or emergency evacuation plan, or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?			X			8c
d. <u>For P-R/D-J</u> , will any chemical toxicants be used? (Also see 8a)						NA

8c. – Applicable to Alternatives B and C. As noted previously, drawing down and drying up the pond might expose it to wind erosion. Any wind erosion event would increase the amount of dust in the air and thereby decrease air quality for a limited amount of time in a limited geographic area. This could create a potential short duration health hazard for individuals in the immediate area that have breathing related issues. The potential for soil erosion (wind) would be the greatest under Alternative B since it would have the longest drawdown duration.

NA – not applicable

9. <u>COMMUNITY IMPACT</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				
10. <u>PUBLIC SERVICES/TAXES/UTILITIES</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify:		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased use of any energy source?		X				
e. Define projected revenue sources		NA				
f. Define projected maintenance costs.		NA				

11. <u>AESTHETICS/RECREATION</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?			X			11a
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings?			X			11c
d. For P-R/D-J, will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c.)						NA

11a – Applicable to both Alternatives B and C. The CFWMA where Pond 3 is located does get a lot of public recreational use. Some individuals might find the site of the dewatered pond and/or the site of exposed dead fish to be aesthetically offensive. Given that the duration of the proposed project would be limited, impacts on aesthetic quality would be limited. Alternative B would have a longer period of potential negative impact given its longer proposed drawdown duration. If the drawdown occurs, MFWP would make the public aware of the event and the reason for its occurrence via news releases.

11c – Applicable to both Alternatives B and C. Pond 3 receives a lot of public recreational use particularly in the fall by waterfowl hunters. Decreased water levels in the pond and/or a dry pond would likely negatively impact waterfowl hunting opportunities on Pond 3 during the fall of 2017. However, waterfowl hunting opportunity is not limited in the immediate geographic area, so there are other places close for hunters to go including the other three ponds on the CFWMA. Regarding birdwatching, all the bird species found in/on Pond 3 can also be observed elsewhere on the CFWMA. Also, given that the duration of the proposed project is limited, impacts on recreational/hunting use of the area around Pond 3 would be limited to the duration of the drawdown (2017 season regarding hunting). In the long-term, improving the wetland habitat of the pond would improve both recreational and hunting opportunities associated with the pond as higher numbers of birds and potentially a greater diversity of species would be expected to use the pond post drawdown. If the drawdown occurs, MFWP would make the public aware of the event and the reason for its occurrence via news releases.

NA – Not applicable

12. <u>CULTURAL/HISTORICAL RESOURCES</u> Will the proposed action result in:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance?		X				
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
d. <u>For P-R/D-J</u> , will the project affect historic or cultural resources? Attach SHPO letter of clearance. (Also see 12.a.)		X				NA

NA – Not applicable

SIGNIFICANCE CRITERIA

13. <u>SUMMARY EVALUATION OF SIGNIFICANCE</u> Will the proposed action, considered as a whole:	IMPACT					
	Unknown	None	Minor	Potentially Significant	Can Impact Be Mitigated	Comment Index
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources that create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects, which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. <u>For P-R/D-J</u> , is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e.)		X				NA
g. <u>For P-R/D-J</u> , list any federal or state permits required.		X				NA

NA – Not applicable

There are no expected cumulative impacts on any resources from the proposed project.

PART III. NARRATIVE EVALUATION AND COMMENT

This analysis did not reveal any significant impacts to the human or physical environment. If successful, the proposed action alternatives would affect a complete carp kill in the pond and aerate the soils in the pond. Alternative B (Preferred Alternative) would provide for a longer period of soil aeration. Achieving a carp reduction and aerating the pond soils should promote an increase in invertebrates and aquatic submergent vegetation which would improve waterfowl, waterbird, and shorebird habitat in the pond and hence on the CFWMA. While either of the proposed action alternatives would work towards MFWP meeting its goal of improving habitat conditions on the CFWMA for waterfowl, Alternative B would provide the most benefit regarding increasing invertebrates and submergent vegetation because of the longer drawdown duration.

PART IV. PUBLIC PARTICIPATION

1. Public involvement:

The public will be notified in the following manners to comment on this current EA, the proposed action and alternatives:

- Public notices in each of these papers: Bozeman Chronicle, Helena Independent Record, Broadwater County Reporter
- Public notice on the Fish, Wildlife & Parks web page: <http://fwp.mt.gov>.

Copies of this environmental assessment will be distributed to interested parties to ensure their knowledge of the proposed project.

This level of public notice and participation is appropriate for a project of this scope having limited impacts, many of which can be mitigated.

2. Duration of comment period:

The public comment period will extend for (30) thirty days following the publication of the second legal notice in area newspapers. Written or email comments will be accepted until 5:00 p.m., August 7, 2017 and can be mailed or emailed to the addresses below:

Attention: Adam Grove
Montana Fish, Wildlife & Parks
P.O. Box 998
Townsend, MT 59644
adgrove@mt.gov

PART V. EA PREPARATION

- 1. Based on the significance criteria evaluated in this EA, is an EIS required? (YES/NO)? If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.**

No, an EIS is not required. Based on an evaluation of impacts to the physical and human environment under MEPA, this environmental review revealed no significant impacts from the proposed action; therefore, an environmental assessment is deemed to be the appropriate level of analysis.

2. Person(s) responsible for preparing the EA:

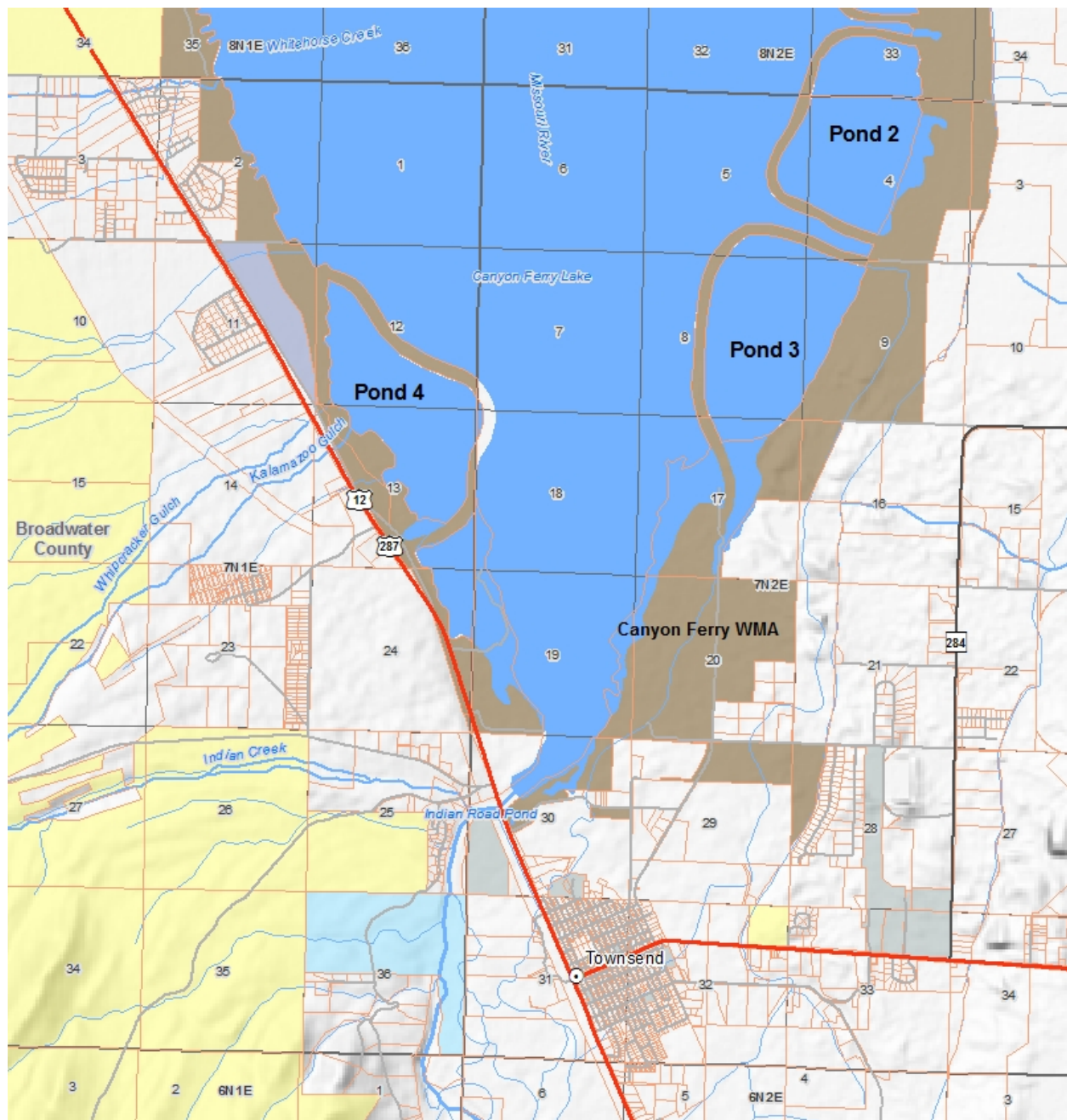
Adam Grove, MFWP Wildlife Biologist - Townsend

3. List of agencies or offices consulted during preparation of the EA:

Montana Fish, Wildlife and Parks
Wildlife Division
Fisheries Division
Responsive Management Unit

Bureau of Reclamation

Appendix A: Map and aerial photo of pond 3 (CFWMA).





Aerial photo of Pond 3 - note muddied look of water in Pond 3 due to presence of suspended sediment which is due to carp feeding action.

Appendix B: Pelican and cormorant nests observed on CFWMA since 1987.

